

## REMARKS

### *Claim Amendments*

Claims 194-207 and 209-258 are pending. Claims 221 and 232-251 are amended herein. Support for these amendments can be found throughout the application as filed. No new matter has been added.

### *Specification*

Applicants have amended the Brief Description of the Figures to recite, “Figures 3A-3C contain...” as suggested by the Examiner. Applicants also submit herewith a formal drawing of Figure 1 that legibly shows the names of all T1Rs and does not recite “rate.” The specification has been amended to reflect formal Figures 1a-1b. No new matter has been added. Accordingly, Applicants request withdrawal of the objection to the specification.

### *Election By Original Presentation*

The Office Action states that claims 236 and 238-251 are drawn to a non-elected invention and therefore should be amended. Claims 236 and 238-251 have been amended to recite “the isolated heteromeric receptor of claim \_.” As such, Applicants believe these claims fall within the elected invention and should not be restricted.

The Office Action also states that claims 252-253 are drawn to a non-elected invention and should be amended to recite, for example, “An isolated...expressed in a lipid bilayer...”

Applicants respectfully disagree. Claims 220-221 are identical to claims 252-253, except for the claim in which they depend, and have already been examined. Claim 221, for example, previously recited, “the isolated heteromeric receptor of claim 194 which is comprised in a lipid bilayer.” The Examiner objected to this claim stating, “Applicants should consider amending the phrase ‘comprised in’ since proteins are not actually comprised in membranes inasmuch as membranes comprise the receptor.” In response, Applicants amended the claim to recite, “A lipid bilayer comprising said heteromeric receptor of claim 194.” The Examiner withdrew the objection and examined claim 221. As such, Applicants believe that claims 252-253 fall within the elected invention and should not be restricted.

***Claim Rejections - 35 U.S.C. §112, First Paragraph (Scope of Enablement)***

Claims 194-207 and 209-258 are rejected on scope of enablement grounds. The Office Action states that the genus of T1R2 and T1R3 receptors is excessive because the claims encompass the genus of receptors which hybridize under specific conditions to known receptors. The Office Action also states that due to the quality of Figure 1, the Examiner cannot identify three T1R2 and T1R3 receptors. The Office Action also objects to the use of “derived from” in claim 236 because Applicants have allegedly only identified one T1R2 sequence and two T1R3 sequences. The Office Action concludes that undue experimentation would be required for the skilled artisan to make and use the claimed invention because Applicants have only provided guidance and working examples of, at most, one T1R2 receptor and two T1R3 (rat and human receptors).

Applicants respectfully disagree and traverse this rejection.

Initially, Applicants note that the Sequence Listing contains all of the sequences from Figure 1. *See e.g.*, SEQ ID NOS: 4-7 and 16-18. Applicants also submit herewith a formal drawing of Figure 1 that depicts the sequence of the human and rat T1R2 receptor and the human and rat T1R3 receptor. Applicants do not believe the submission of this figure is necessary as all of the substantive information is already of record. However, merely to expedite prosecution, this formal figure is being submitted.

Applicants also draw the Examiner’s attention to paragraph [0254]. This paragraph provides the accession number and reference citations relating to mouse and rat T1Rs and allelic variants thereof in the public domain, including rat and mouse T1R2 and T1R3. Applicants will provide a copy of these references at the Examiner’s request. Accordingly, Applicants submit that the specification and the state of the art disclose T1R2 and T1R3 receptors from human, rat, and mouse.

Applicants also assert that the claims not only include stringent hybridization conditions, but also include functional language, e.g., “An isolated heteromeric taste receptor that responds to sweet taste stimuli.” Furthermore, the specification teaches methods of identifying receptors, expressing these receptors in a cell, and assaying for the function of responding to sweet taste stimuli. *See e.g.*, Examples 3-7 and 10-11, and Figures 2-6, 9-10, and 12. As such, the

specification provides adequate guidance to teach one of skill in the art how to make and use the full scope of the claimed invention.

The Office Action states that the Examiner may withdraw this rejection, if Applicants can demonstrate that the genus of T1R2 and T1R3 receptors were well known at the time of the invention (i.e., more than two known receptors) and that structural similarities were sufficient enough for the artisan to identify members of these genii.

Applicants submit that this showing has been made. As discussed above, the specification and the state of the art disclose T1R2 and T1R3 receptors from human, rat and mouse. The specification also teaches the skilled artisan how to identify receptors, express these receptors in a cell, and assay for the requisite function. Accordingly, Applicants respectfully request withdrawal of this rejection.

***Claim Rejections - 35 U.S.C. §112, First Paragraph (Written Description)***

Claims 194-207 and 209-258 are rejected on written description grounds for substantially the same reasons as discussed in the scope of enablement rejection. For the same reasons discussed above, Applicants request withdrawal of this rejection.

***Claim Rejections - 35 U.S.C. §112, First Paragraph (New Matter)***

Claims 194-207 and 209-258 are rejected as allegedly failing to comply with the written description requirement. The Office Action states that the Examiner was unable to find any disclosure of the specified hybridization conditions.

Applicants respectfully disagree and traverse this rejection.

Applicants draw the Examiner's attention to paragraph [0135], for example, which provides support the hybridization conditions. Applicants respectfully request withdrawal of this rejection.

***Claim Rejections - 35 U.S.C. §112, Second Paragraph***

Claims 232-236 and 238-251 are rejected over the phrase "the cell." Applicants have amended these claims to recite, "the isolated heteromeric receptor of claim \_." Accordingly, Applicants respectfully request withdrawal of this rejection.

***Provisional Obviousness-Type Double Patenting***

The Office Action provisionally rejected claims 194-207 and 209-258 under the judicially created doctrine of obviousness-type double patenting over claims 194-234 of co-pending Application No. 10/725,103, claims 194-235 of co-pending Application No. 10/725,472, and claims 194-256 of co-pending Application No. 10/725,475.

Applicants respectfully request this rejection be held in abeyance until this application is condition for allowance.

## CONCLUSION

It is believed that these amendments and remarks should place this application in condition for allowance. A notice to that effect is respectfully solicited. If the Examiner has any questions relating to this response or the application in general he is respectfully requested to contact the undersigned so that prosecution of this application may be expedited.

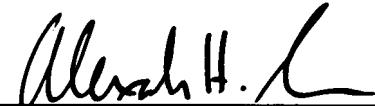
It is believed that no fees are required for entry of this response, but should any fees be necessary, the Commissioner is authorized to charge such fees to the undersigned's **Deposit Account No. 50-0206**.

Respectfully submitted,

**HUNTON & WILLIAMS, LLP**

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By:

  
Robin L. Teskin  
Registration No. 35,030

Alexander H. Spiegler  
Registration No. 56,625

HUNTON & WILLIAMS LLP  
Intellectual Property Department  
1900 K Street, N.W. Suite 1200  
Washington, DC 20006-1109  
(202) 955-1500 (telephone)  
(202) 778-2201 (facsimile)

RLT/AHS:sac